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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,892	06/27/2005	Sammo Cho	CU-4288 WWP	1970
26530 7590 11/09/2009 LADAS & PARRY LLP 224 SOUTH MICHIGAN AVENUE SUITE 1600 CHICAGO, IL 60604			EXAMINER HA, DAC V	
			ART UNIT	PAPER NUMBER
			2611	
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			11/09/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/540,892

Applicant(s)

CHO ET AL.

Examiner

Dac V. Ha

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 3, 4, 7 and 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5, 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is in response to the RCE filed 09/02/09.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-2, 5-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Murata (US 6,470,004) in view of Norr (US 7,085,377) and Catreux et al. (US 6,802,035) (hereafter Catreux).

Re claim 1, Murata discloses:

“a capacity managing unit for dividing the source-coded data into divided data for a plurality of channels, and generating header information corresponding to the divided data” in Fig. 3, element 41; col. 2, lines 10-17; col. 3, lines 38-58; col. 4, lines 1-10, 17-28; col. 5, lines 1-8, 15-17 in that, when the amount of data to be transmitted exceed the capacity of one channel (the assigned channel), an available data channel of other user is used in addition to the assigned channel for transmitting the data; and indication of such a situation is added in the header for assisting the receiver for correctly receiving the signal).

“a transmitting unit” (Fig. 2, elements 44, 45).

Murata differs from the claimed invention in that it does not teach “a source encoding unit for encoding data to be transmitted and generating source-coded data”; “a channel encoding unit for encoding each of the divided data according to each of channel environment and generating channel-coded data for transmitting the channel-coded data through multiple frequency bands”; “and multiplexing, modulating and transmitting the channel-coded data”.

However, these claimed subject matter are fundamental processing steps of a digital communication system, particularly, in the transmitter chain. Norr, in the same field of endeavor, teaches an example of “source encoding unit for encoding data to be transmitted and generating source-coded data” in Fig. 3, element 202; “a channel encoding unit for encoding the divided data” “and generating channel-coded data” in Fig. 3, element 218; and “multiplexing, modulating and transmitting the channel-coded” in Fig. 3, element 220; col. 1, lines 7-51.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the fundamental processing blocks of the transmitter chain, taught by Norr, into Murata, depending on a specific application, and a predictable result still can be expected.

Further, Catreux, in the same field of endeavor, discloses the claimed subject matter “a channel encoding unit for encoding each of the divided data according to each of channel environment and generating channel-coded data for transmitting the channel-coded data through multiple frequency bands” in a method for optimizing data

transmission in Abstract; col. 4, line 29 to col. 6, line 31. That is, Catreux teaches a method for adaptively selecting different combination of modulation and coding schemes in a plurality operation environments (i.e. TDMA, FDMA, OFDM) based upon the condition of the channel communication. More particularly, selective coding is applied to each transmitted data stream (col. 5, lines 57-60).

As well-known in the art, channel condition constantly varies due to a variety of factors (i.e. interference, multi-path fading, etc.), it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the teaching of optimizing data transmission by use of adaptive modulation and coding, taught by Catreux, into Murata and Norr to further enhance the robustness of the system.

Re claim 2, Murata further discloses "wherein the capacity managing unit stores information of available capacity and unavailable capacity for each frequency band, divides the source-coded data in case that an available data capacity for transmitting the source-coded data does not exist in one channel but sum of the available data capacities of multiple channels can accommodate the source-coded data, and adds the header information in a data packet so as to reconstruct the data in the receiving apparatus" in Fig. 2; Fig. 3, element 41; col. 4, lines 19-21, 32-35; col. 3, lines 51-58.

Re claim 5, see corresponding apparatus claim 1 above. Further, Norr teaches the data to be transmitted includes "image data and audio data" in col. 2, lines 44-49.

Re claim 6, see corresponding apparatus claim 2 above.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Walton et al. (US 7,072,413)

Gesbert et al. (US 7,191,381)

Schramm (US 6,208,663)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 571-272-3040. The examiner can normally be reached on 4/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dac V. Ha/
Primary Examiner, Art Unit 2611